

REMARKS

The present application contains claims 1-88, the status of which is as follows:

(a) Claims 1-44, 57, 59-65, and 82-88 have been canceled without prejudice.

(b) Claim 45-56, 58, and 66-81 were previously presented.

No amendments have been made to the claims.

Claim Rejections Under 35 U.S.C. 103

The Examiner rejected all of the pending claims under 35 U.S.C. 103, over PCT Publication WO 99/63882 to Grinvald ("Grinvald '99") in view of "Retinal microvascular abnormalities and incident stroke: the atherosclerosis risk in communities study," by Wong ("Wong"), further in view of US 5,727,561 to Owsley ("Owsley"), and, in the case of some claims, further in view of additional references.

The Examiner stated:

At the time of the invention, it would

have been obvious to one of ordinary skill in the art to modify the invention of Grinvald et al. to include identifying roughness in an inner wall of said at least one optically accessible blood vessel and include the limitations of claims 51-52 and 68-69, as taught by Wong et al., in order to provide a non-invasive way of determining the risk of arteriosclerosis in an individual (pg. 1139, left column, 1st paragraph).

The Examiner further stated:

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of Grinvald et al. to have their computer serve as a wall analyzer to perform the step of utilizing at least one flow characteristic (i.e. flow direction, flow rate) for identifying roughness on an inner wall of said at least one optically accessible blood vessel, as Owsley teaches that flow characteristics (i.e. turbulent flow, flow direction, flow rate) are indicators of plaque formation (i.e. roughness on inner wall of blood vessel), thus enabling earlier diagnosis of a disease (column 1, line 62-column 2, line 4).

The Applicants note that each of the three cited references is concerned with a different field of study. Grinvald '99 describes a type of optical imaging technique that facilitates imaging individual erythrocytes in the blood for the purpose of determining the velocity of the erythrocytes. The study described in the Wong article deals with the relationship between retinal microvascular abnormalities and incident stroke. Owsley describes methods and apparatus for the diagnosis of pathological turbulent arterial blood flow in a patient using energy wave detectors.

Therefore, the Applicants respectfully submit that the Examiner has not established that the hypothetical person of ordinary skill in the art would have the required high level of skill and knowledge to combine the three cited references. As set forth in MPEP 2141.03, in order to make a proper obviousness rejection, the Examiner has the burden of establishing the level of ordinary skill in the art:

The examiner must ascertain what would have been obvious to one of ordinary skill in the art at the time the invention was made, and not to the inventor, a judge, a layman, those skilled in remote arts, or to geniuses in the art at hand. *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 218 USPQ 865 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1043 (1984). (MPEP 2141.03.III).

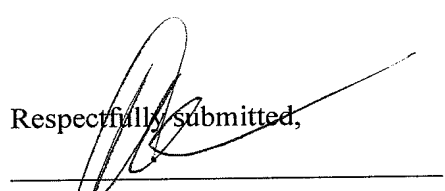
Applicants respectfully submit that the study of optical imaging, the study of microvascular pathologies, and the study of turbulent flow are substantially different and unrelated arts. One of ordinary skill in one of those fields does not have a

knowledge of both of the other fields. For example, one who is an expert at (a) developing optical imaging techniques that facilitate imaging microscopic cells (as described in Grinvald '99), does not necessarily have a knowledge of (b) turbulent flow dynamics (as described in Owsley), or (c) medical diagnostics (as described in Wong). Although a few persons may exist who are experts in all three of these arts, such "geniuses in the art" (citation above) are surely not representative of the level of ordinary skill in the art, and thus cannot properly serve as the basis of an obviousness rejection.

In view of the above, the Applicants submit that the currently pending claims are patentable over Grinvald '99 in view of Wong, further in view of Owsley.

The Applicant believes the remarks presented hereinabove to be fully responsive to all of the grounds of rejection and objection raised by the Examiner. In view of these remarks, the Applicant respectfully submits that all of the claims in the present application are now in order for allowance. Notice to this effect is respectfully requested.

Respectfully submitted,



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